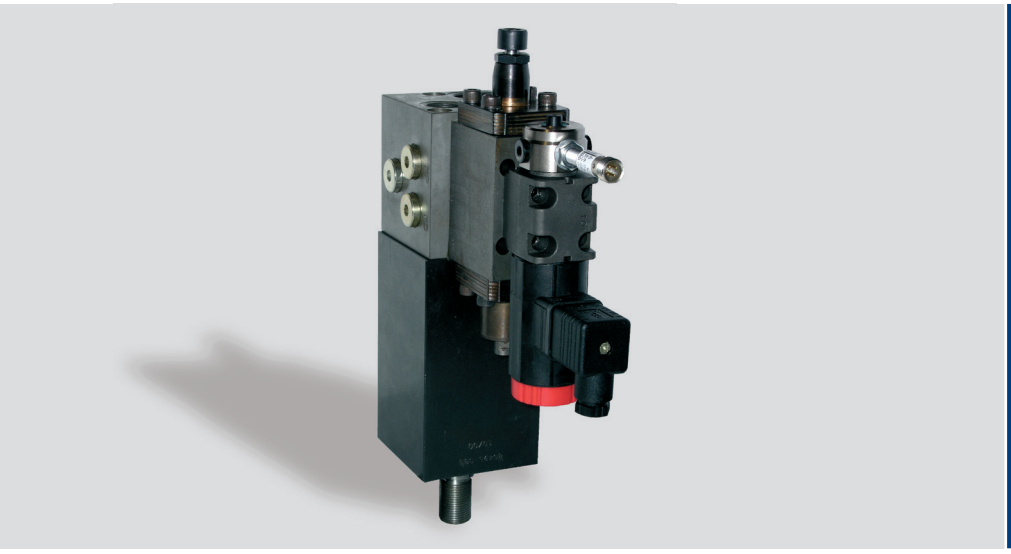
Hydraulic Ram Control Unit HSE NG 6

Technical Data Sheet



Design and Function

Common features of ram control units:

- modular design
- robust valve elements
- high dynamics
- simple control structure

The integration of all necessary valve components into a manifold mounted directly on the block cylinder results in a compact design and best power density. Together with additional mechanical feedback, the hydraulically piloted main valve forms the basis for the stroke control.

Top dead center control is always with mechanical closed loop feedback. Bottom dead center control may be with electrical feedback or with mechanical feedback control, depending on the application.

The hydromechanical design of the stroce control unit offers an accurate and drift-free top dead center. Due to the fast steering process, the bottom dead center has a good repatability as well.

Technical Data

General	
Ram force	10 to 200 kN (standard design)
Ram return force	approx. 50% ram force
Operating force tdc	250 N at 80 bar control pressure
Operating force bdc	150 N (at mechanical bdc reversal)
Ambient temperature	-5 to +50 °C
Mounting position	mountable in any position
Hydraulic	
Operating pressure	max. 250 bar
Control pressure	80 bar; max. 160 bar
Hydraulic oil temperature	-10 to +70 °C
Viscosity range	10 to 300 mm^2/s
Electric	
Valve control	Voith stroke control HS2
Valve voltage (±10%)	24 V DC
Valve switching time „Start“	8 ms
Valve switching time „bdc“	7 ms
Power consumption P20	20 W
System of protection DIN 40050	IP65, connected valve plug

Further specific performance data according to computation minutes.

Features

- highly dynamic punching and shearing drive for shortest cycle time
- smooth stroke operation via hydraulically damped cylinder ram
- stable top dead center position without drift
- exact bottom dead center reversing for process safe stroke operation
- manually adjustable stroke positions; optionally electrical
- simple functions with robust valve technique
- monitored processes with low control complexity

Options

- stroke control units NG 10 and NG 25 for higher force range
- stroke control unit HSP for programmable stroke positions
- complete punching systems

Electronic Control

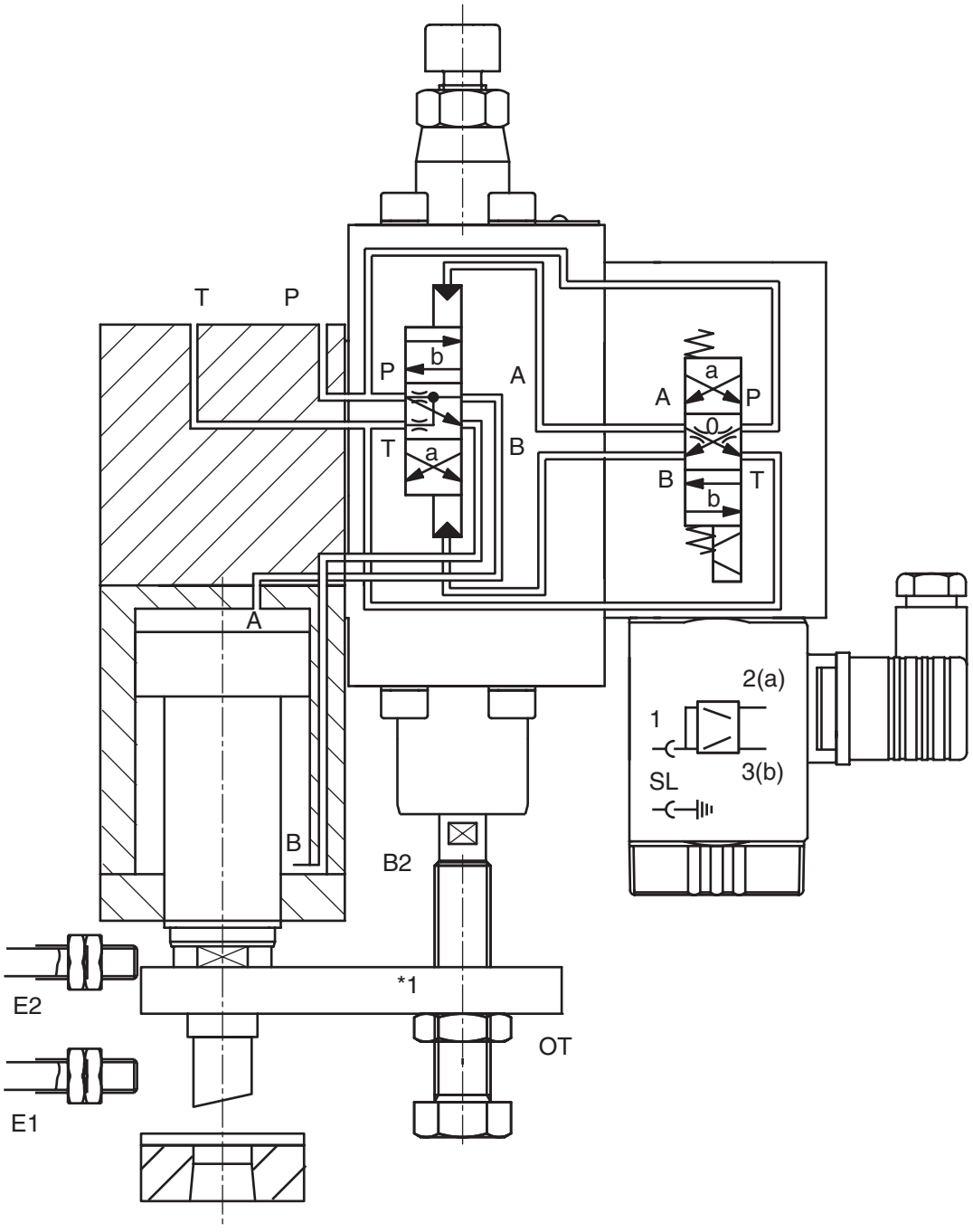
The ram control units HSE are delivered with an electronic control, the link between hydraulics and machine control. This control is adapted to the application. Please refer to the technical data from the data sheet of the electronic control.

Applications

- punching / nibbling
- shearing / cutting
- stamping

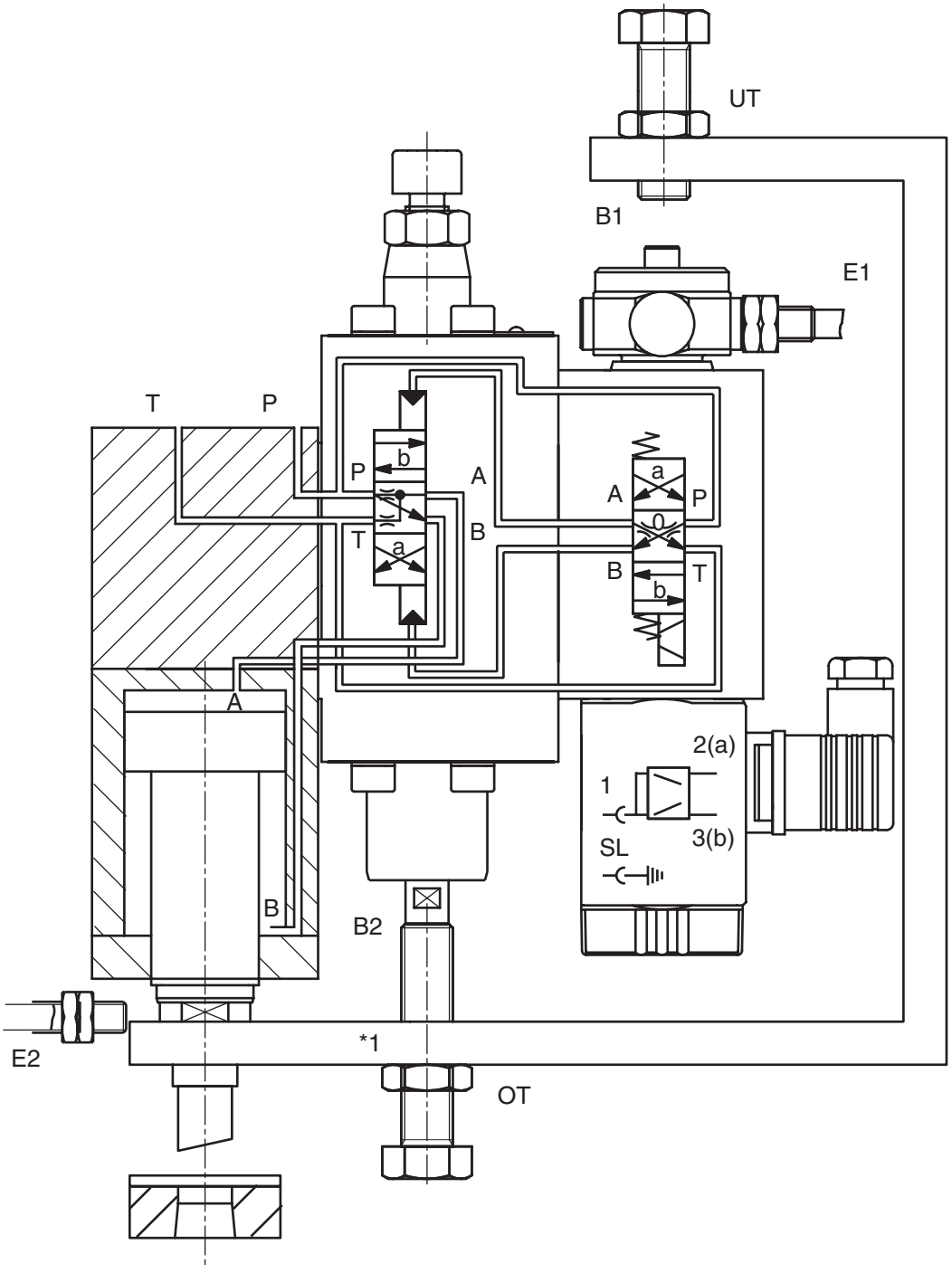
Application	Specific Performance
Punching Drive	• Punching force: 70 kN • Total cycle time at 10 mm stroke: 40 ms
Wire Cutting Machine	• Shearing force: 20 kN • Total cycle time at 12 mm stroke: 35 ms

Functional Diagramm HSE NG 6 with Electric Bottom Dead Centre Reversing



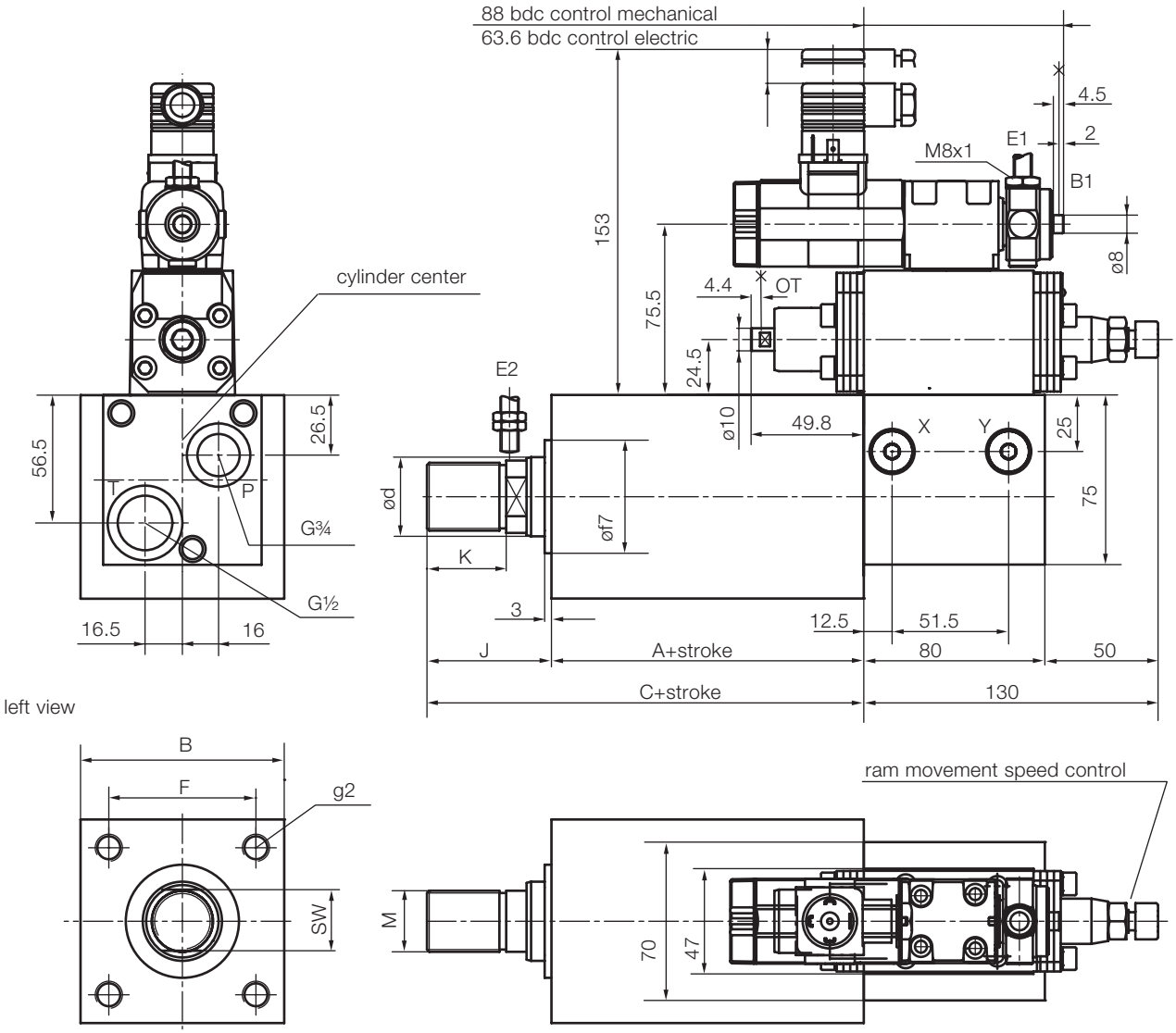
Proximity switch E1 and E2 and the mechanical parts *1 are not scope of delivery.

Functional Diagramm HSE NG 6 with Mechanic BDC Reversing



Proximity switch E2 and the mechanical parts *1 are not scope of delivery.

Dimensioned Drawing Basic Design

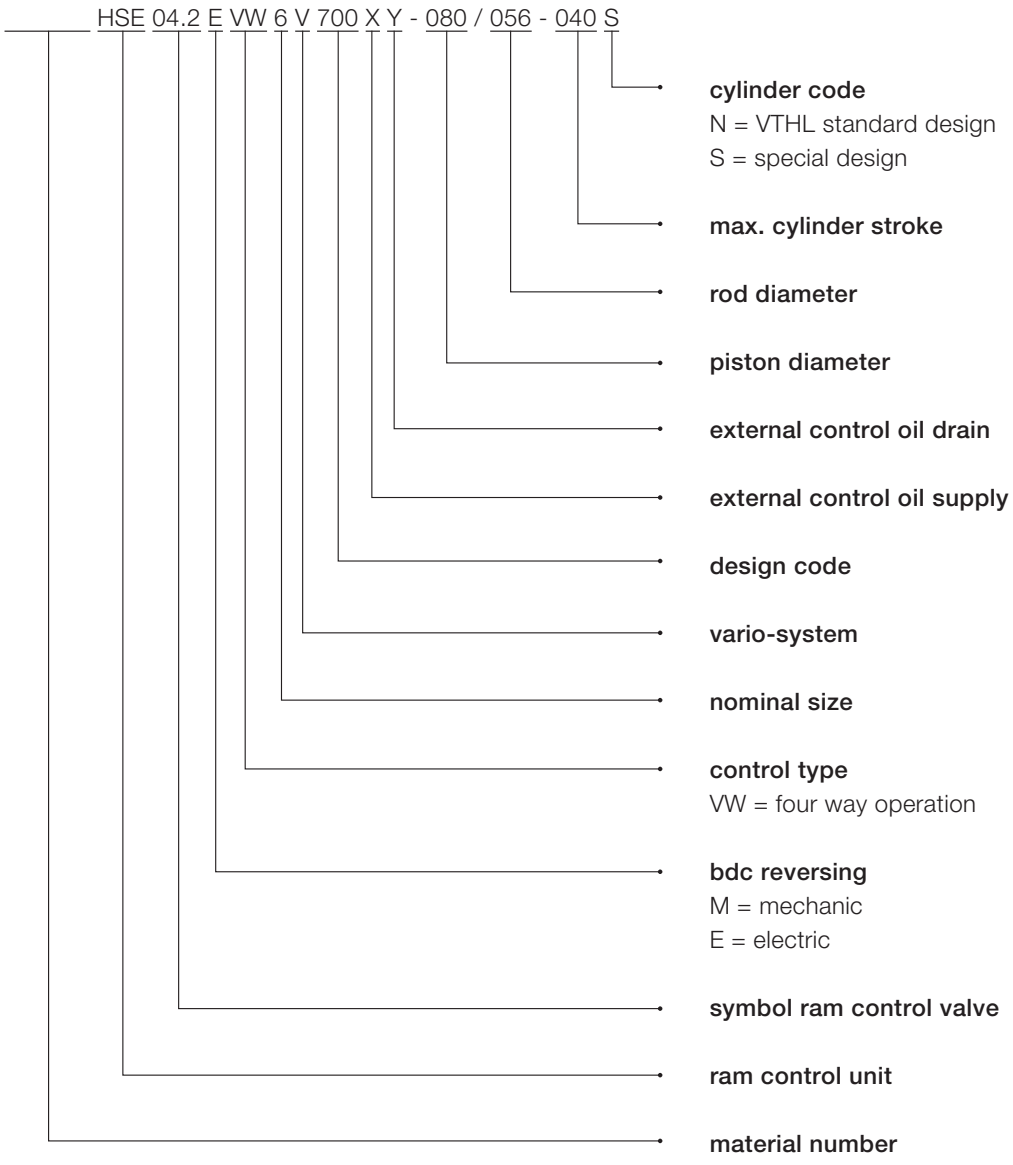


Dimension Table Standard Cylinders

Ø rod	Ø d	A	B	C	F	J	K	M	SW	g2
40	28	90	75	134	55	44	30	M20x1,5	22	M10
50	35	98	90	153	65	55	35	M27x2	27	M12
63	45	120	105	182	70	62	42	M30x2	36	M16
80	56	135	125	210	90	75	50	M42x2	46	M16
100	70	190	150	280	110	90	60	M48x2	60	M20

further cylinder dimensions on request
all data in mm

Type Code



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